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ABSTRACT

Composition theory accounts of coherence have tended to look at relationships within the text rather than at those between the text and the real world. In fact, empirical evidence suggests that the relationships between the text and the real world may be just as important for coherence. Forty-eight short papers were selected at random from those written for the English compostion test at the University of British Columbia. The papers were rated by four trained readers on coherence factors such as flow, organization, and the accessibility of the main point. The papers were then subjected to analysis for t-unit topics to determine which of them were related to a previous sentence element, either topic or comment, and which were not. The percentage of topics having no linguistic relationship to an element was determined and correlated with total scores. Results indicated that coherence judgments by readers did not depend on a greater number of linguistic relationships among topics, but seemed to depend on messages with deictic anchors, or referents that direct the reader's attention to specific points in time and space. (CRH)

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Coherence, Cohesion, and Deixis

by Dan Foster

Composition theory accounts of coherence have tended to look at relationships within the text rather than at those between the text and the real world. In fact, empirical evidence suggests that the relationships between the text and the real world may be just as, if not more, important for coherence.

My research was conducted in the following way: Forty-eight short papers were randomly selected from those written for the English Composition Test at the University of British Columbia, an examination required for all undergraduates entering UBC whether credit for freshman English has been gained or not. The test allows a choice of two topics, so papers written on one of the topics were eliminated prior to selection as were those showing second language errors. The papers chosen were all written on the following topic: "If it were possible to stem the tide of scientific discovery, what modern inventions would you like to see 'disinvented'." The students were instructed to use two or three examples and to provide clear reasons for their choices. The forty-eight papers were then rated one through four for coherence by four trained readers working independently and working to a rubric. One was the lowest score and four the highest, so total scores ranged from four to sixteen. The mean score was 9.4, and the interrater reliability coefficient was .82, indicating a fairly high degree of agreement. The rubric directed the readers' attention to "flow", organization, and the accessibility of the main point, all

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CS 208 254

factors in coherence according to various composition handbooks.[1] During the training session the rubric was adjusted slightly to ensure that there would be at least some papers in each category.

The papers were then subjected to analysis for t-unit topics as described recently by Witte.[2] The topics were analysed to determine which of them were linguistically related to a previous sentence element, either a topic or a comment, and which were not. Linguistic relationships included those covered under Halliday and Hasan's reference and substitution cohesion as well as some of those covered under lexical cohesion.[3] A drawback with the cohesion framework is that lexical cohesion includes and fails to distinguish between relationships between words that are purely linguistic and those that require some sort of real world inference. An example of the latter, non-linguistic relationship occurs in the sentence beginning, "Yet, various accidents, culminating in the near disaster at Three Mile Island...", where "accidents" is the topic. Nowhere previously have any accidents been mentioned. The previous sentence topic is "Nuclear reactors." Any connection between the two topics depends on the reader's awareness of the real world connection between nuclear reactors and accidents. Equally, the connection of either topic with "Three Mile Island" depends to some extent on a real world connection. Another frequent example of this type of connection was that between "automobile" and "accident". In the cohesion framework, these connections would be treated under lexical cohesion as collocations, along with opposition or contrast, and membership in ordered or unordered sets. A vast improvement on this framework is contained in Stotsky's recent 3 Cs

article.[4] She divides lexical cohesion into semantically related words and collocationally related words. This division is very close to that which I am suggesting, though I am still unhappy about the notion of collocation. Collocations are words which frequently co-occur. I think a more important factor in relationships between words that seem to go together in the absence of a definable semantic relation is the possibility, or perhaps probability, of connecting them with an inference. The connection between automobiles and accidents is not so much that the two words frequently co-occur, but rather that many cars are involved in accidents. The connection between nuclear reactors and accidents exists in the real world concern about such happenings.

In any case, the percentage of topics having no linguistic relationship to an element in a previous sentence was determined and correlated with total scores. The first topic of each paper was eliminated from the equation for obvious reasons. The percentage of topics not linguistically related to a previous element ranged from zero to thirty-six, with a mean of 12. The correlation between these topics and total scores was .1, significant at the .25 level, indicating that there is virtually no relationship between the two items. Since the two categories were exhaustive, this statistic indicates that the coherence judgments did not depend on a greater number of linguistic relationships among topics. However, the fact that most of the topics in each text had such a relationship indicates that they are important in texts. Perhaps making these relationships is a step normally mastered prior to reaching college.

If the coherence judgments didn't depend on the linguistic relationships

among topics, then perhaps they did depend on the relationships of the topics to the real world. The topics were divided into those which referred to an actual thing or event locatable in time and space, and those which did not. If the topic referred back to a previous element through pronominalization or some other mechanism, the reference to the real world was determined by that previous element. In the sentence:

The cat was kicked by John

"the cat" refers to a specific being. If that sentence were to appear in conversation, the speaker would be expecting the hearer to know not only that a cat is a furry animal with four legs, but also which particular cat was being referred to. The sentence would make little contextual sense to a hearer who did not have that information, though the hearer would know what the sentence meant and what conditions would make it true. In the sentence:

The cat is a furry animal with four legs

there is no such expectation of hearer knowledge. No specific cat is referred to. Of course practical analysis is often not so clear cut; in some papers it was difficult to determine just what some topics did refer to.

Once this analysis was complete, the percentage of topics in each paper which did refer to a real world object was correlated with the total scores. The percentages ranged from six to ninety-four with a mean of forty-three. The correlation coefficient was .42, significant at the .002 level. In other words, we can say with some confidence that higher-rated papers tended to have more topics with real world referents.

Topics with real world referents require more reader knowledge than do

those without. The latter require only that the reader understand what the word means. The former require that knowledge and also the ability on the part of the reader to attach the topic to some specific point in time and space. One might expect that this additional requirement would interrupt the flow and make the main point of the discourse less accessible. But, as we have seen, this extra work at the very least does not seem to harm coherence, and may actually aid it. A possible explanation comes from the theory of deixis.[5] For present purposes, an example from Fillmore's work[6] should be adequate. If you arrive at someone's door to discover a message:

Back in an hour

you will not be much enlightened. The statement requires a deictic anchor, specifically, the time the writer of the message left. A solution might be to provide the actual time of return:

Back at 2:30 pm.

But this message still requires that the reader know which day is referred to:

Back at 2:30 pm, April 2nd, 1984 AD.

Even so, the statement is still anchored to our current calendar. The problems would be even worse if you found a message in a bottle in the middle of the Pacific Ocean stating:

I will meet you here tomorrow at noon.

Not only the time, but the place and the writer's identity would be in doubt.

While both Lyons and Levinson[7] note that diexis may be the basis of

anaphoric reference, and Levinson further notes the importance of deixis in language philosophy attempts to deal with real world reference, linguists have not provided a theoretical framework that would account for the importance of real world knowledge in readers' judgments about flow organization and accessibility of main point. Thus, while deixis appears to have potential as an explanation of at least some aspects of coherence, the theory requires some development before it is particularly useful to composition theory.

If deixis is in fact the basis of reference to the real world, then we can form some hypotheses about the higher coherence ratings given papers whose topics showed frequent real world reference. Looking back at the two note examples, we see that without deictic anchors, the messages are impossible to interpret. If we provide the reader of the message with no orientation in time and space, about the best we can do is tell the person that someone will be somewhere sometime. Papers having few real world referents would not allow readers to orient themselves with regard to the subject matter, thus making the development of the paper harder to follow and the main point harder to determine.

If such is the case, them perhaps at the college level we do not need to be to concerned with students' abilities to make linguistic connections within discourse. The writers in this study showed no appreciable differences in this regard. The differences in coherence judgments appear connected, at least in part, to the writer's ability to direct the reader's attention to specific points in time and space. Perhaps composition theory should attend to the question of how successful writers so direct

their readers' attention. The theory of deixis requires development before it is useful in this regard. But preliminary indications are that the theory has the potential to explain one aspect of coherence.

Footnotes

1 The handbooks used in this study were Sylvan Barnet and Marcia Stubbs, Practical Guide to Writing 3rd ed., (Boston: Little, Brown and Co., 1980); H. Ramsey Fowler, The Little, Brown Handbook, (Boston: Little, Brown and Co., 1980); Glenn Leggett, C. David Mead, and William Charvat, Prentice-Hall Handbook for Writers 7th ed., (Englewood Cliffs: Prentice-Hall, 1978); and William Messenger and Jan de Bruyn, The Canadian Writer's Handbook, (Scarborough: Prentice-Hall, 1980).

2 Stephen P. Witte, "Topical Structure and Revision: An Exploratory Study" College Composition and Communication 34 (October, 1983) 313-41, and Stephen P. Witte, "Topical Structure and Writing Quality: Some Possible Text-based Explanations of Readers' Judgments of Student Writing" forthcoming in Visible Language.

3 M. A. K. Halliday and Ruqaiya Hasan, Cohesion in English, (London: Longman, 1976)

4 Sandra Stotsky, "Types of Lexical Cohesion in Expository Writing: Implications for Developing the Vocabulary of Academic Discourse" College Composition and Communication 34 (December 1983) 430-46.

5 Three good introductions to this probably unfamiliar term are John Lyons, Semantics 2 Vols. (Cambridge: Cambridge University Press, 1977);

Charles Fillmore, Santa Cruz Lectures on Deixis 1971, (Bloomington: Indiana Linguistics Club, 1975); and Stephen Levinson, Pragmatics in the Cambridge Textbooks in Linguistics series, Cambridge: Cambridge University Press, 1983).

6 Fillmore, p. 38

7 Lyons, p. 671; and Levinson, pp. 55-89.